

LUMBER GRADE, YIELD AND STIFFNESS PROPERTIES OF FAST
GROWING PLANTATION LOBLOLLY AND SLASH PINE

BY
ALEXANDER CLARK III, WOOD SCIENTIST
USDA FOREST SERVICE, SOUTHERN RESEARCH STATION
ATHENS, GA

TIMOTHY D. FAUST, ASSOCIATE PROFESSOR

BARRY D. SHRIVER, ASSOCIATE PROFESSOR

LEON V. PIENAAR, PROFESSOR

UNIVERSITY OF GEORGIA, WARNELL SCHOOL OF FOREST RESOURCES
ATHENS, GA

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LOBLOLLY PINE TREATMENTS

B.F. GRANT MEMORIAL FOREST SPACING STUDY
PLANTED 1983

400 TPA, WEED CONT., NO FERT, UNTHINNED, HARVESTED AGE 14
600 TPA, WEED CONT., NO FERT, UNTHINNED, HARVESTED AGE 14
800 TPA, WEED CONT., NO FERT, UNTHINNED, HARVESTED AGE 14

OPERATIONAL CONTROL, HANCOCK CO., PLANTED 1973 AT
605 TPA NO WEED CONT., NO FERT., THINNED 1990 TO 250
TPA, HARVESTED AT AGE 24

NUMBER OF LOBLOLLY PINE SAMPLE TREES PROCESSED INTO LUMBER BY TREATMENT AND DBH CLASS

TREATMENT	DBH CLASS (IN.)				TOTAL
	8	9	10	11	
	-----NO.-----				
400 TPA	9	6	10	4	29
600 TPA	10	11	7	6	34
800 TPA	13	15	5	0	33
CONTROL	8	9	9	8	34

AVERAGE TREE CHARACTERISTICS OF LOBLOLLY PINE SAMPLE TREES BY TREATMENTS

CHARACTERISTIC	TREATMENTS			
	14 YR 400 TPA	14 YR 600 TPA	14 YR 800 TPA	24 YR CONTROL
NUMBER	29	34	33	34
DBH (IN.)	9.3	9.2	8.6	9.5
TOTAL HT. (FT.)	59	62	57	72
SAW MERCH HT. (FT.)	28	29	26	39
DIB @ MERCH HT. (IN.)	5.5	5.5	5.5	5.4
FORM CLASS	71	72	71	75

**AVERAGE WOOD SPECIFIC GRAVITY AND
MOISTURE CONTENT OF LOBLOLLY PINE SAMPLE
TREE SAWLOG STEMS BY TREATMENT**

WOOD PROPERTIES	TREATMENTS			
	14 YR 400 TPA	14 YR 600 TPA	14 YR 800 TPA	24 YR CONTROL
SPECIFIC GRAVITY	.43	.43	.43	.44
MOISTURE CONTENT (DRY) (%)	121	121	123	114
MOISTURE CONTENT (GN) (%)	54	54	55	53

**AVERAGE GREEN WEIGHT OF WOOD AND WOOD AND
BARK PER CUBIC FOOT OF WOOD FOR LOBLOLLY PINE
SAMPLE TREE SAWLOG STEMS BY TREATMENT**

	TREATMENTS			
	14 YR 400 TPA	14 YR 600 TPA	14 YR 800 TPA	24 YR CONTROL
WOOD / FT ³ WOOD	58.5	58.5	59.6	58.4
WOOD & BARK / FT ³ WOOD	65.1	64.9	66.3	66.1

**AVERAGE BARK PROPORTION BY WEIGHT,
SPECIFIC GRAVITY AND MOISTURE CONTENT OF
LOBLOLLY PINE SAMPLE TREE SAWLOG STEMS
BY TREATMENT**

BARK PROPERTIES	TREATMENTS			
	14 YR 400 TPA	14 YR 600 TPA	14 YR 800 TPA	24 YR CONTROL
PROPORTION BY WT. (%)	10.4	10.1	10.3	12.2
SPECIFIC GRAVITY	.28	.28	.29	.28
MOISTURE CONTENT (DRY) (%)	97.3	93.3	96.1	85.7
MOISTURE CONTENT (GN) (%)	47.6	46.5	46.9	44.8

STUDY LUMBER YIELDS

226 TREES PRODUCED 471 SAWLOGS

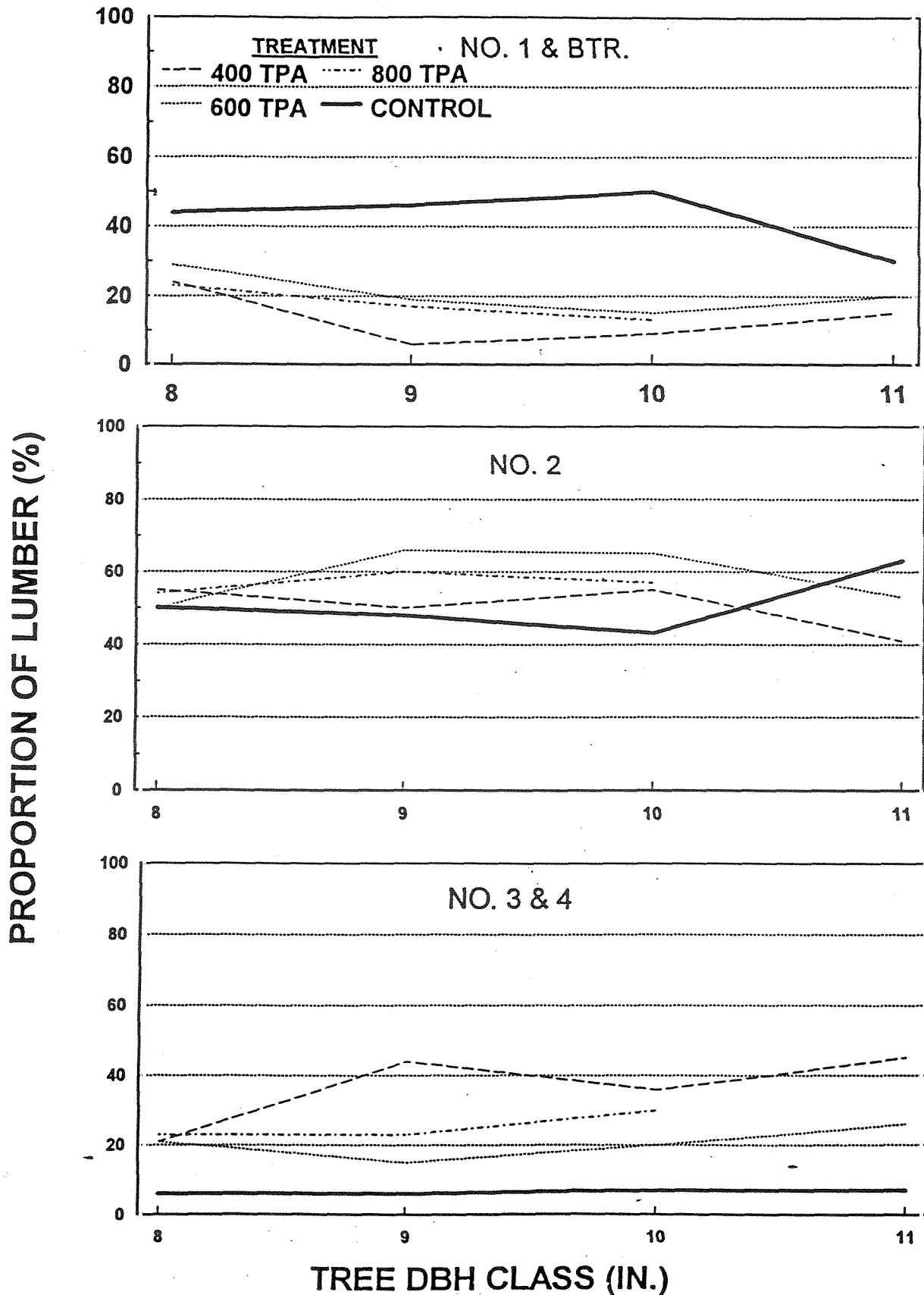
471 SAWLOGS PRODUCED 1,448 PIECES OF LUMBER

OR

10,432 BF MILL TALLY

1X4 -	342 PIECES	=	1,242 BF
1X6 -	12 PIECES	=	61 BF
2X4 -	994 PIECES	=	7,747 BF
2X6 -	100 PIECES	=	1,382 BF

PROPORTION OF LUMBER BY LUMBER GRADE AND DBH CLASS
FOR 14 YEAR LOBLOLLY PINE CHIPPING SAW TREES PLANTED AT
400, 600 AND 800 TPA AND 24 YEAR CONTROL



STUDY LUMBER YIELDS

226 TREES PRODUCED 471 SAWLOGS

471 SAWLOGS PRODUCED 1,448 PIECES OF LUMBER

OR

10,432 BF MILL TALLY

1X4	-	342 PIECES	=	1,242 BF
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2X4	-	994 PIECES	=	7,747 BF
2X6	-	100 PIECES	=	1,382 BF

LOBLOLLYPINE LUMBER YIELDS

130 TREES PRODUCED 276 SAWLOGS

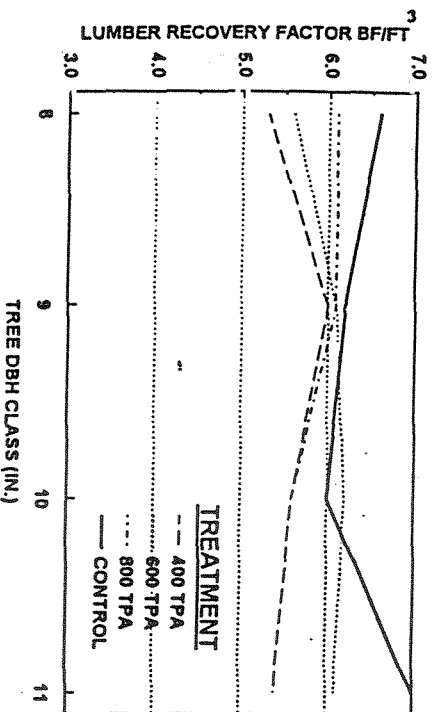
276 SAWLOGS PRODUCED 894 PIECES OF LUMBER

OR

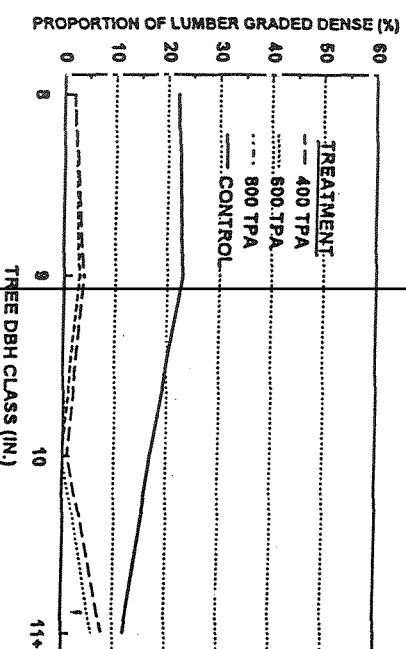
6,438 BF MILL TALLY

1X4	-	220 PIECES	=	784 BF
1X6	-	9 PIECES	=	43 BF
2X4	-	591 PIECES	=	4,599 BF
2X6	-	74 PIECES	=	1,012 BF

AVERAGE LUMBER RECOVERY FACTOR BY DBH CLASS FOR 14 YEAR UNTHINNED LOBLOLLY PINE PLANTED 400, 600, AND 800 TPA AND 24 YEAR THINNED CONTROL



AVERAGE PROPORTION OF LUMBER GRADED DENSE (DSS, 1D, 2D) FOR 14 YEAR UNTHINNED LOBLOLLY PINE PLANTED 400, 600 AND 800 TPA AND 24 YEAR THINNED CONTROL



**AVERAGE PROPORTION OF LUMBER BY
LUMBER GRADE FOR LOBLOLLY PINE CHIPPING
SAW SAMPLE TREES BY TREATMENT**

LUMBER GRADE	TREATMENTS			
	14 YR. 400 TPA	14 YR. 600 TPA	14 YR. 800 TPA	24 YR. CONTROL
----- % -----				
NO. 1 & BTR.	14	21	19	43
NO. 2	52	59	57	50
NO. 3 & 4	34	20	24	7

**AVERAGE PROPORTION OF TOTAL LUMBER GRADED
BELOW NO. 2 BY CAUSAL TYPE DEFECT FOR 14 YEAR
UNTHINNED LOBLOLLY PINE PLANTED 400, 600 AND 800 TPA
AND 24 YEAR THINNED CONTROL**

DEFECT TYPE	TREATMENT			
	14 YR. 400 TPA	14 YR. 600 TPA	14 YR. 800 TPA	24 YR. CONTROL
----- % -----				
WANE, SKIP	8	3	7	2
DRYING (BOW, TWIST, CROOK)	7	4	3	1
< 16 % LATEWOOD	6	5	8	0.5
KNOTS	13	7	5	3

**AVERAGE MAXIMUM KNOT DIAMETER, AVERAGE KNOT
DIAMETER, AND KNOT COUNT PER SAWLOG FOR 14 YEAR
UNTHINNED LOBLOLLY PINE PLANTED 400, 600 AND 800 TPA
AND 24 YEAR THINNED CONTROL**

SAWLOG KNOT CHARACTERISTICS	TREATMENT			
	14 YR. 400 TPA	14 YR. 600 TPA	14 YR. 800 TPA	24 YR. CONTROL
KNOT COUNT (NO.)	23	24	24	16
AVG. KNOT DIAMETER (IN.)	1.1	1.0	0.9	0.8
AVG. MAX KNOT DIA. (IN.)	2.0	1.7	1.7	1.3

**AVERAGE MOE BASED ON E-COMPUTER FOR LOBLOLLY PINE 8/4
LUMBER BY VISUAL LUMBER GRADE AND PROPORTION OF LUMBER
WITH MOE BELOW AVERAGE REQUIRED FOR GRADE BY TREATMENT**

	TREATMENT			
	14 YR. 400 TPA	14 YR. 600 TPA	14 YR. 800 TPA	24 YR. CONTROL
GRADE NO. 1 - AVG. MOE REQUIRED 1.7 MPsi				
AVG. LUMBER MOE (MPsi)	0.82	0.92	0.93	1.28
% BELOW GRADE MOE ¹	100	100	100	94
GRADE NO. 2 - AVG. MOE REQUIRED 1.6 MPsi				
AVG. LUMBER MOE (MPsi)	0.89	0.98	1.00	1.25
% BELOW GRADE MOE	100	99	99	88
GRADE NO. 3 - AVG. MOE REQUIRED 1.4 MPsi				
AVG. LUMBER MOE (MPsi)	0.83	0.84	0.83	1.25
% BELOW GRADE MOE	100	100	100	64

¹ WHEN IN COMPLIANCE APPROX. 50% OF LUMBER WOULD BE BELOW
REQUIRED GRADE AVG. MOE

PROPORTION OF NO. 2 & BTR 8/4 LUMBER WITH MOE REQUIRED TO MAKE 2400F-2.0E, 1800F-1.6E OR 1200F-1.2E MSR GRADES, BELOW MSR GRADE OR GRADED NO. 3 OR 4 FOR 14 YEAR UNTHINNED LOBLOLLY PINE PLANTED 400, 600 AND 800 TPA AND 24 YEAR THINNED CONTROL

MSR GRADE	TREATMENT			
	14 YRS 400 TPA	14 YRS 600 TPA	14 YRS 800 TPA	24 YRS CONTROL
2400F-2.0E	2	1	0	4
1800F-1.6E	1	4	1	25
1200F-1.2E	21	30	39	45
BELOW MSR MIN. MOE	41	44	34	19
NO. 3 & 4 LUMBER	35	21	20	7

EQUATIONS FOR PREDICTING LOBLOLLY PINE TREE YIELDS AND VALUE BY TREATMENT

IND. VARIABLE	DEP. VARIABLE	R ²
SAWLOG STEM WT. (LBS) =	A+B (D ² TH)	.93
SAWLOG STEM VOL. (FT ³) =	A+B (D ² TH)	.93
TOTAL LUMBER VOL. (BF) =	A+B (D ² TH)	.85
VALUE ALL PRODUCTS (\$) =	A+B (D ² TH)	.88
STUMPAGE VALUE (\$) =	A+B (D ² TH)	.87
^{1/2} DRY MILL TALLY		

ASSUMPTIONS

PRODUCT VALUES
LUMBER - RANDOM LENGTH PRICES, NOV, 1997
LOBLOLLY - DENSE & NON-DENSE
PRICED SAME EXCEPT DSS
SLASH - DENSE & NON-DENSE PRICED
SEPARATELY

WOOD CHIPS = \$28 / TON
SAWDUST = \$15 / TON
BARK = \$15 / TON

COSTS -
AVG. CUT & HALL COST = \$16 / TON
AVG. LUMBER & RESIDUE MANUFACTURING = \$120 / MBF

IRR = 18%

SUMMARY OF ALL LOBLOLLY PINE TREES PER ACRE AND CHIPPING-SAW TREES >= 7.5 INCHES DBH PER ACRE FOR SPACING PLOTS ON B.F. GRANT AND CONTROL STAND IN 1997 PRIOR TO THINNING

INITIAL STOCKING TPA	1997 TPA	1997 TPA CHIP-SAW >= 7.5 IN. DBH	1997 CHIP-SAW DBH AVG.	1997 CHIP-SAW RANGE	1997 STEM WEIGHT TONS
400	395	328	9.5	7.5-11.7	86
600	635	328	8.7	7.5-12.4	69
800	700	295	8.5	7.5-10.7	58
605 (CONT.)	235	203	11.1	8.0-15.0	119

PREDICTED LUMBER YIELD, VALUE OF ALL PRODUCTS, AND
BREAK-EVEN STUMPAGE VALUE PER ACRE FOR 14 YEAR
UNTHINNED LOBLOLLY PINE PLANTED 400, 600 AND 800 TPA
AND 24 YEAR THINNED CONTROL

TREATMENT	CHIPPING-SAW TREES / ACRE					
	STEM			VALUE / ACRE		
	AVG. DBH	TPA	VOL. YLD.	LUMBER VOLUME MBF	ALL PRODUCTS \$	BREAK-EVEN STUMPAGE \$/TON
400 TPA	9.5	328	26.66	86	14.8	6,863
600 TPA	8.7	328	21.08	69	12.5	6,192
800 TPA	8.5	295	17.65	58	10.6	5,167
CONTROL	11.1	203	37.98	119	24.2	12,327

Y MILL TALLY
Z LUMBER, CHIPS, SAWDUST, BARK

AVERAGE TONS OF SAWLOG STEMS PER MBF OF LUMBER,
VALUE OF ALL PRODUCTS PER TON OF SAWLOG STEM,
BREAK-EVEN STUMPAGE PER TON OF SAWLOG STEM FOR 14
YEAR UNTHINNED LOBLOLLY PLANTED 400, 600 AND 800 TPA
AND 24 YEAR THINNED CONTROL

TREATMENT	CHIPPING-SAW STEMS / ACRE			
	TONS / MBF		VALUE ALL PRODUCTS	
	NO.		\$ / TON	BREAK-EVEN STUMPAGE \$/TON
400 TPA	5.8		80	37
600 TPA	5.5		90	42
800 TPA	5.5		89	41
CONTROL	4.9		104	60

SLASH PINE TREATMENTS

PMRC SITE PREPARATION AND SOIL TYPE STUDY
PLANTED IN 1979-1980 AT 8X10 SPACING = 545 TPA
SAMPLED 8 INST. IN 1997, HARVESTED 4 TREES / PLOT / INST.

1. CHOP, BURN, BED, WEED CONTROL (HERBICIDE)
2. CHOP, BURN, BED, WEED CONTROL, FERTILIZE (HERB/FERT) 250
LBS/ACRE DIAMMONIUM PHOSPHATE 1ST & 12TH YR.

OPERATIONAL CONTROL, PLANTED 1973 AT 605 TPA NO WEED
CONTROL, NO FERTILIZATION, UNTHINNED HARVESTED AT AGE
24

NUMBER OF SLASH PINE SAMPLE TREES PROCESSED INTO LUMBER BY TREATMENT AND DBH CLASS

TREATMENT	DBH CLASS (IN.)			
	8	9	10	11+ TOTAL
HERBICIDE	19	10	1	2
HERB / FERT	16	10	5	1
CONTROL	11	11	8	2

AVERAGE TREE CHARACTERISTICS OF SLASH PINE SAMPLE TREES BY TREATMENTS

CHARACTERISTICS	TREATMENTS		
	17 YR. HERBICIDE	17 YR. HERB/FERT	24 YR. CONTROL
NUMBER	32	32	32
DBH (IN)	8.6	8.7	9.1
TOTAL HT. (FT.)	60	61	64
SAW MERCH HT. (FT.)	25.6	26.4	26.7
DIB @ MERCH HT. (IN.)	5.2	5.3	5.4
FORM CLASS	72	71	73

AVERAGE BARK PROPORTION BY WEIGHT, SPECIFIC GRAVITY AND MOISTURE CONTENT OF SLASH PINE SAMPLE TREE SAWLOG STEMS BY TREATMENT

BARK PROPERTIES	TREATMENTS		
	17 YR. HERBICIDE	17 YR. HERB/FERT	24 YR. CONTROL
PROPORTION BY WT. (%)	16.0	15.5	14.7
SPECIFIC GRAVITY	.36	.37	.37
MOISTURE CONTENT (DRY) (%)	58	58	60
MOISTURE CONTENT (GN) (%)	36	35	36

AVERAGE WOOD SPECIFIC GRAVITY AND MOISTURE CONTENT OF SLASH PINE SAMPLE TREE SAWLOG STEMS BY TREATMENT

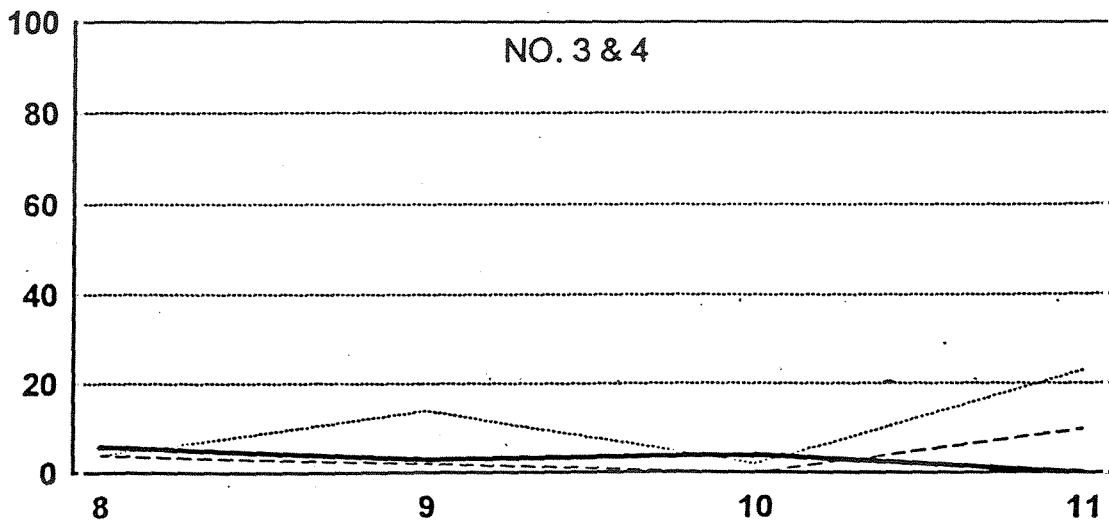
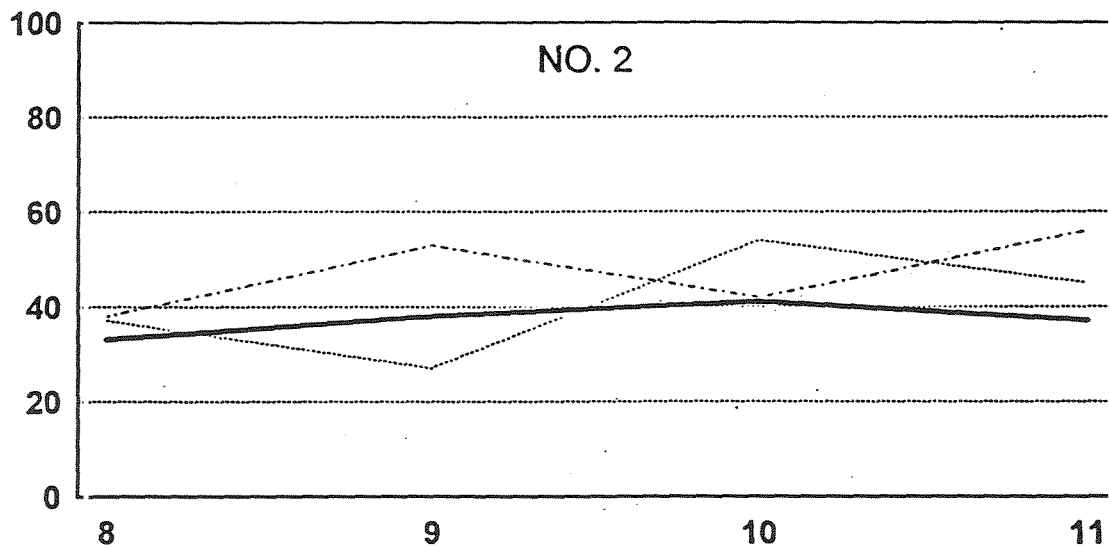
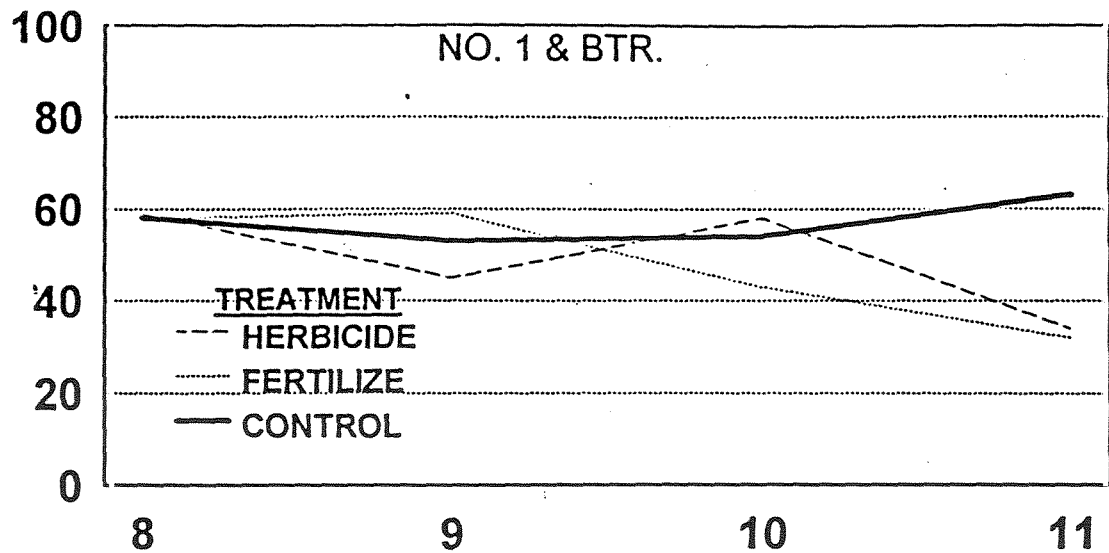
WOOD PROPERTIES	TREATMENTS		
	17 YR. HERBICIDE	17 YR. HERB/FERT	24 YR. CONTROL
SPECIFIC GRAVITY	.53	.53	.56
MOISTURE CONTENT (DRY) (%)	86	84	81
MOISTURE CONTENT (GN) (%)	46	45	44

AVERAGE GREEN WEIGHT OF WOOD AND WOOD AND BARK PER CUBIC FOOT OF WOOD FOR SLASH PINE SAMPLE TREE SAWLOG STEMS BY TREATMENT

	TREATMENTS		
	17 YR. HERBICIDE	17 YR. HERB/FERT	24 YR. CONTROL
WOOD / FT ³ WOOD	61.1	60.9	62.5
WOOD & BARK / FT ³ WOOD	72.5	71.6	72.9

PROPORTION OF LUMBER BY LUMBER GRADE AND DBH CLASS FOR 17 YEAR SLASH PINE CHIPPING SAW TREES SAMPLED FROM HERBICIDE AND HERBICIDE / FERTILIZE PLOTS AND 24 YEAR CONTROL

PROPORTION OF LUMBER (%)



TREE DBH CLASS (IN.)

**AVERAGE PROPORTION OF LUMBER BY LUMBER
GRADE FOR SLASH PINE CHIPPING SAW SAMPLE
TREES BY TREATMENT**

LUMBER GRADE	TREATMENTS		
	17 YR HERBICIDE	17 YR HERB/FERT	24 YR CONTROL
NO. 1 & BTR.	53	55	59
NO. 2	44	37	37
NO. 3 & 4	3	8	4

**AVERAGE MAXIMUM KNOT DIAMETER, AVERAGE KNOT
DIAMETER, AND KNOT COUNT PER SAWLOG FOR 17 YEAR
UNTHINNED HERBICIDE AND HERBICIDE / FERTILIZE SLASH
PINE AND 24 YEAR UNTHINNED CONTROL**

SAWLOG KNOT CHARACTERISTICS	TREATMENT		
	17 YR HERBICIDE	17 YR HERB / FERT	24 YR, CONTROL
KNOT COUNT (NO.)	16	17	13
AVG. KNOT DIAMETER (IN.)	0.8	0.8	0.9
AVG. MAX KNOT DIA. (IN.)	1.4	1.3	1.6

**AVERAGE PROPORTION OF TOTAL LUMBER GRADED
BELOW NO. 2 BY CAUSAL TYPE DEFECT FOR 17 YEAR
UNTHINNED HERBICIDE AND HERBICIDE / FERTILIZED SLASH
PINE AND 24 YEAR UNTHINNED CONTROL**

DEFECT TYPE	TREATMENT		
	17 YR HERBICIDE	17 YR HERB / FERT	24 YR. CONTROL
WANE, SKIP	2	3	2
DRYING (BOW, TWIST, CROOK)	0.5	2	2
< 15 % LATEWOOD	1	1	0
KNOTS	1	0.5	0

**AVERAGE MOE BASED ON E-COMPUTER FOR SLASH PINE 8/4
LUMBER BY VISUAL LUMBER GRADE AND PROPORTION OF LUMBER
WITH MOE BELOW AVERAGE REQUIRED FOR GRADE BY TREATMENT**

	TREATMENT		
	17 YR. HERBICIDE	17 YR. HERB/FERT	24 YR. CONTROL
GRADE DSS - AVG. MOE REQUIRED 1.9 MPsi			
AVG. LUMBER MOE (MPsi)	1.79	1.99	1.98
% BELOW GRADE MOE [‡]	75	50	40
GRADE NO. 1 - AVG. MOE REQUIRED 1.7 MPsi			
AVG. LUMBER MOE (MPsi)	1.46	1.44	1.63
% BELOW GRADE MOE	71	81	63
GRADE NO. 2 - AVG. MOE REQUIRED 1.6 MPsi			
AVG. LUMBER MOE (MPsi)	1.37	1.38	1.57
% BELOW GRADE MOE	72	67	48

[‡] WHEN IN COMPLIANCE APPROX. 50% OF LUMBER WOULD BE BELOW
REQUIRED GRADE AVG. MOE

PROPORTION OF NO. 2 & BTR 8/4 LUMBER WITH MOE REQUIRED TO
MAKE 2400F-2.0E, 1800F-1.6E OR 1200F-1.2E MSR GRADES, BELOW
MSR GRADE OR GRADED NO. 3 OR 4 FOR 17 YEAR UNTHINNED
HERBICIDE AND HERBICIDE/FERTILIZE SLASH PINE AND 24 YEAR

MSR GRADE	TREATMENT		
	17 YR HERBICIDE	17 YR HERB / FERT	24 YR CONTROL
2400F-2.0E	23	19	45
1800F-1.6E	28	36	34
1200F-1.2E	32	27	15
BELOW MSR MIN. MOE	13	12	2
NO. 3 & 4 LUMBER	4	6	4

EQUATIONS FOR PREDICTING SLASH PINE TREE YIELDS AND VALUE BY TREATMENT

IND. VARIABLE	DEP. VARIABLE	R ²
SAWLOG STEM WT. (LBS) =	A+B (D ² TH)	.91
SAWLOG STEM VOL. (FT ³) =	A+B (D ² TH)	.92
TOTAL LUMBER VOL. (BF) =	A+B (D ² TH)	.86
VALUE ALL PRODUCTS (\$) =	A+B (D ² TH)	.85
STUMPAGE VALUE (\$) =	A+B (D ² TH)	.84

¹/ DRY MILL TALLY

SUMMARY OF ALL SLASH PINE TREES PER ACRE AND CHIPPING-SAW TREES >= 7.5 INCHES DBH PER ACRE FOR HERBICIDE AND HERBICIDE / FERTILIZE PLOTS AND CONTROL STAND IN 1997 PRIOR TO THINNING

TREATMENT	1997		1997		1997
	TPA	CHIP-SAW	CHIP-SAW	DBH	CHIP-SAW
ALL TREES >= 7.5 IN. DBH	NO.	NO.	AVG.	RANGE	STEM WEIGHT
HERBICIDE	461	179	8.3	7.5-10.9	34
HERB / FERT	480	224	8.4	7.5-11.3	41
CONTROL	375	156	8.0	7.5-10.0	22

PREDICTED LUMBER YIELD, VALUE OF ALL PRODUCTS, AND BREAK-EVEN STUMPAGE VALUE PER ACRE FOR 17 YEAR HERBICIDE AND HERBICIDE / FERTILIZED SLASH PINE AND 24 YEAR UNTHINNED CONTROL

TREATMENT	CHIPPING-SAW TREES / ACRE				
	AVG. DBH	TPA	STEM VOL.	LUMBER VOLUME	ALL PRODUCTS
HERBICIDE	8.3	179	9.22	34	5.4
HERB / FERT	8.4	224	11.50	41	6.9
CONTROL	8.0	156	5.85	22	3.6

¹/ MILL TALLY
²/ LUMBER, CHIPS, SAWDUST, BARK

AVERAGE TONS OF SAWLOG STEMS PER MBF OF LUMBER, VALUE OF ALL PRODUCTS PER TON OF SAWLOG STEM, AND BREAK-EVEN STUMPAGE PER TON OF SAWLOG STEM FOR 17 YEAR UNTHINNED HERBICIDE AND HERBICIDE / FERTILIZED SLASH PINE AND 24 YEAR UNTHINNED CONTROL

TREATMENT	CHIPPING-SAW STEMS / ACRE		
	TONS / MBF ^{1/}	VALUE ALL ^{2/} PRODUCTS \$ / TON	BREAK-EVEN STUMPAGE \$ / TON
HERBICIDE	6.3	87	40
HERB / FERT	5.9	92	44
CONTROL	6.1	97	46

^{1/} MILL TALLY
^{2/} LUMBER, CHIPS, SAWDUST, BARK

CONCLUSIONS

14 YEAR LOBLOLLY PINE SITE PREP STUDY

1. INITIAL STOCKING DID NOT SIGNIFICANTLY INFLUENCE WOOD SG, MC OR WT / FT³
2. INITIAL STOCKING SIGNIFICANTLY INFLUENCED VISUAL GRADE LUMBER GRADED YIELD.
3. TREES IN 400 TPA PLOTS YIELDED 34 % NO. 3 & 4 LUMBER COMPARED TO 20 % FOR THE 600 TPA PLOTS AND 24 % FOR THE 800 TPA PLOTS

CONCLUSIONS

14 YEAR LOBLOLLY PINE SITE PREP STUDY

4. AVERAGE STUMPAGE FOR 400 TPA WAS 12% LESS PER TON THAN THAT OF 600 TPA AND 10% LESS THAN THAT OF 800 TPA PLOTS
5. LUMBER GRADE YIELDS ARE LOWER FOR 400 TPA BECAUSE WIDER SPACING STIMULATES PERSISTANT LARGER BRANCHES IN LOBLOLLY PINE.
6. ONLY 24% OF THE NO. 2 & BTR. LUMBER FROM THE 400 TPA, 35% FROM THE 600 TPA AND 40% FROM THE 800 TPA HAD THE REQUIRED STIFFNESS TO MEET MSR GRADES COMPARED TO 74% FOR THE 24 YEAR THINNED CONTROL

CONCLUSIONS

17 YEAR SLASH PINE SITE PREP STUDY

1. HERBICIDE OR HERBICIDE / FERTILIZE, TREATMENTS DID NOT SIGNIFICANTLY INFLUENCE WOOD SG, MC OR WT / FT³
2. HERBICIDE, HERBICIDE / FERTILIZE, AND CONTROL TREATMENTS DID NOT SIGNIFICANTLY INFLUENCE PROPORTION OF VISUALLY GRADED LUMBER BY LUMBER GRADE
3. 24 YEAR CONTROLS PRODUCED A SIGNIFICANTLY HIGHER PROPORTION OF DENSE (DSS, ID, 2D) GRADE LUMBER¹ THAN 17 YEAR HERBICIDE OR HERB / FERT TREES

CONCLUSIONS

17 YEAR SLASH PINE SITE PREP STUDY

4. AVERAGE STUMPAGE / TON / ACRE WAS 10 % LESS FOR HERBICIDE TREES THAN THAT OF HERBICIDE / FERTILIZE TREES
5. REASON FOR STUMPAGE / TON DIFFERENCE IS HERB / FERT TREATMENT TREES HAD A HIGHER LRF FOR 8 AND 9 INCH TREES
6. 83 % OF THE NO. 2 & BTR LUMBER FROM THE HERBICIDE PLOTS, 82 % FROM THE HERB / FERT PLOTS HAD THE REQUIRED STIFFNESS TO MEET MSR GRADES COMPARED TO 94 % FOR THE 24 YEAR UNTHINNED CONTROL.

TABLE 1.-YIELD OF PULPWOOD AND LUMBER AND STUMPAGE VALUE FOR ALL TREES, PULPWOOD TREES AND CHIPPING-SAW TREES PER ACRE FOR 14 YEAR UNTHINNED LOBLOLLY PINE PLANTED 400, 600, 800 TPA AND 24 YEAR THINNED OPERATIONAL CONTROL IN THE PIEDMONT OF GEORGIA.

TREATMENT	ALL TREES			PULPWOOD TREES ^{2/}				CHIPPING-SAW TREES ^{3/}				ALL TREES		
	TPA	AVG DBH	STEM WEIGHT	TPA	AVG DBH	STEM WEIGHT	STUMPAGE VALUE	TPA	AVG DBH	STEM WEIGHT	CHIPPING-SAW TREES ^{3/}	STUMPAGE VALUE		
			3 IN. TOP ^{1/}			3 IN. TOP PER ACRE			6 IN TOP 6-3 IN TOP VOLUME ^{4/}			PER ACRE		
	NO.	IN.	TONS	NO.	IN.	TONS	\$	NO.	IN.	TONS	MBF	\$		
400 TPA	395	9.1	120.3	65	6.9	10.6	119	328	9.5	86.0	23.7	14.8	3,411	3,530
600 TPA	535	7.9	124.4	198	6.6	28.4	320	328	8.7	68.8	27.2	12.5	3,226	3,546
800 TPA	700	7.2	133.6	365	6.4	50.0	563	295	8.5	58.5	25.1	10.6	2,662	3,225
CONTROL	205	11.1	134.3	3	7.0	0.3	4	203	11.1	118.8	15.2	24.2	7,280	7,284

^{1/} STEM WEIGHT TO 3 IN. DOB TOP FOR TREES ≥ 5.0 IN. DBH

^{2/} TREES ≥ 5.0 AND < 7.5 IN. DBH

^{3/} TREES ≥ 7.5 IN. DBH

^{4/} DRY MILL LUMBER TALLY

TABLE 2-YIELD OF PULPWOOD AND LUMBER AND STUMPAGE VALUE FOR ALL TREES, PULPWOOD TREES AND CHIPPING-SAW TREES PER ACRE FOR 17 YEAR HERBICIDE, HERBICIDE/FERTILIZE AND 24 YEAR UNTHINNED OPERATIONAL CONTROL SLASH PINE IN NORTH FLORIDA.

TREATMENT	ALL TREES			PULPWOOD TREES ^{2/}				CHIPPING-SAW TREES ^{3/}				ALL TREES		
	TPA	AVG DBH	STEM WEIGHT	TPA	AVG DBH	STEM WEIGHT	STUMPAGE VALUE	TPA	AVG DBH	STEM WEIGHT	CHIPPING-SAW PULP SAW VOLUME ^{4/}	STUMPAGE VALUE	STUMPAGE VALUE	
			3 IN. TOP ^{1/}			3 IN. TOP PER ACRE				6 IN TOP	6-3 IN TOP VOLUME	PER ACRE	PER ACRE	
NO.	IN.	TONS	NO.	IN.	TONS	\$	NO.	IN.	TONS	TONS	MBF	\$	\$	
HERBICIDE	461	7.0	88.4	254	6.5	36.6	478	179	8.3	33.6	18.2	5.4	1,585	2,063
HERB/FERT	481	7.2	95.9	228	6.4	32.5	425	224	8.4	41.3	22.1	6.9	2,084	2,509
CONTROL	375	66	61.3	188	6.1	23.4	307	156	8.0	21.9	16.0	3.6	1,214	1,521

^{1/} STEM WEIGHT TO 3 IN. DOB TOP FOR TREES ≥ 5.0 IN. DBH

^{2/} TREES ≥ 5.0 AND < 7.5 IN. DBH

^{3/} TREES ≥ 7.5 IN. DBH

^{4/} DRY MILL LUMBER TALLY